Thomas Parke
1767

Parke's 767

Of the Principles of Bodies.

The Object & chief End of Chymistry, is to separate the different Substances that enter into the composition of bodies; to examine each of them apart; to discover their properties & relations; to decompose those very substances, if possible; to compare them together, and combine them with others; to reunite them again into one body so as to reproduce the original compound with all its properties; or even to produce new compounds that never existed among the works of Nature, from mixtures of other matters differently combined.

Chemistry

To these substances we may, in my opinion, give the title of Principles or Elements: at least they are realy such with regard to us. Of this kind the principal are Earth, Water, Air & Fire.

§. 1. Of Air.

Air is that Fluid which we constantly breathe, & which encompasses the whole surface of the terrestrial Globe. Being heavy, like all other Bodies, it penetrates into all places that are not either absolutely inaccessible, or filled with some other body heavier than itself. Its principal property is to be susceptible of condensation and rarefaction; so that the very same quantity of Air may occupy a much-

greater, or much smaller space according to the different state it is in. Heat & Cold, or if you'r will, the presence and absence of the particles of Fire, are the most usu: al causes, & indeed the Measures, of it condensation & rarefaction: for if a certain quantity of Air be heated, it bulk enlarges in pro: portion to the degree of heat ap: plied to it; the consequence whe: of is that the same space now contains fewer particles of Air than it did before. Cold again produces just the contrary ef: fect.

§. 2. Of Water.

Water is a thing so well known, that it is almost needless to at: tempt giving a general idea of it here. Every one knows that

it is a transparent insipid substance, & usually fluid. I say it is usually so; for being exposed to a certain degree of cold it becomes a solid: solidity therefore seems to be its most natural state.

Water being exposed to Fire grows hot; but only to a limited degree, beyond which its heat never rises, be the force of fire applied to it ever so violent: it is known to have acquired this degree of heat by it boiling up with great tumult. Water cannot be made hotter, because it is volatile, and incapable of enduring the heat without being evaporated and entirely dissipated.

§. 3. Of Earth.

We observed the two principles above treated of to be Volatile: that is, the action of Fire separates

them from the bodies they help to
compose carrying them quite off,
& dissipating them. That of which
we are now to speak, namely,
Earth, is fixed, and, when it is abso-
:lutely pure, resists the utmost force
of Fire. So that, whatever remains
of a body, after it hath been ex-
:posed to the power of the fiercest
Fire, must be considered as con-
:taining nearly all its earthy prin-
:ciple, & consisting chiefly thereof.
I qualify my expression thus for
two reasons: the first is, because
it often happens, that this re-
:mainder does not actually con-
:tain all the Earth which ex-
:isted originally in the mixt body
decomposed by Fire; since it will
afterwards appear that Earth,
tho' in its own nature fixed, may

be rendered volatile by being intimately united with other substances that are so; & that, in fact, it is common enough for part of the Earth of a body to be thus volatized by its other principles: the second is, that what remains after the calcination of a body is not generally its earth in perfect purity, but combind with some of its other principles, which, tho' volatile in their own natures, have been fixed by the union contracted between it and them.

§ 4. Of Fire.

The Matter of the Sun, or of Light, the Phlogiston, Fire, the Sulphureous principle, the Inflamable Matter, are all of them names by which the Element of Fire is usually denoted. But it should seem, that an accurate distinction hath not yet been

made between the different states in which it exists; that is, between the phenomena of Fire actually existing as a principal in the composition of bodies, and those which it exhibits when existing separately & in its natural state: nor have proper distinct appellations been assigned to it in those different circumstances. In the latter state we may properly give it the names of Fire, Matter of the Sun, of Light, & of Heat; and may consider it as a substance composed of infinitely small particles, continually agitated by a most rapid motion, and of consequence, essentially fluid.

A property of Fire is to dilate all bodies into which it penetrates. This hath already been shewn with regard to Air & Water;

and it produces the same effects on Earth.

Fire is the most powerfull agent we can employ to decompose bodies; and the greatest degree of heat producible by Man, is that excited by the rays of the Sun collected in the focus of a large burning glass.

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A general View of the Relations or Affinities between Bodies.

Before we can reduce compound Bodies to the first principles above mentioned, we obtain, by analysing them, certain substances which are indeed more simple than the Bodies the help to

compose, yet are themselves composed of our primary principles. They are therefore at one & the same time both principles & compounds: for which reason we shall call them by the name of Secondary Principles. Saline & oily matters chiefly constitute this class. But before we enter upon an examination of their properties, we shall give a general view of what Chymists understand by the Relations or Affinities of Bodies; because it is necessary to know these in order to a distinct conception of the different combinations we are to treat of.

All that hath been said concurs with daily observation to prove

that different bodies, whether principles or compounds, have such a mutual conformity, Relation, Affinity, or Attraction, if you will call it so, as dispose some of them to join & unite together, while they are incapable of contracting any union with others. This effect, whatever be its cause, will enable us to account for, and connect together, all the phenomena that Chymistry produces. The nature of this universal affection of matter is distinctly laid down in the following propositions.

1st If one substance has an affinity or conformity with another, the two will unite together & form one compound.

2d It may be laid down as a ge-

general rule, that all similar substances have an affinity for each other, & are consequently disposed to unite; as water with water, earth with earth, &c.

3. Substances that unite together, lose some of their separate properties, & the compounds resulting from their union partake of the properties of those substances which serve as their principles.

4. The simpler any substances are, the more perceptible & considerable are their affinities: whence it follows, that the less bodies are compounded, the more difficult it is to analyse them; that is, to separate from each other the principles of which they consist.

5.thly If a body consist of two sub:
:stances and to this compound be
presented a third substance that
has no affinity at all with one
of the two primary substances
aforesaid, but has a greater affini:
:ty with the other than those two
substances have with each other,
there will ensue a decomposition,
and a new union; that is, the third
substance will separate the two com:
:pounding substances from each other,
coalesce with that which has an
affinity with it, form therewith a
new combination, and disengage
the other, which will then be left
at liberty, and such as it was
before it had contracted any uni:
:on.

Explanation of Geoffroy's Table of Affinities.

The late Mr. Geoffroy, one of the best Chymists we have had, being convinced of the advantages which all who cultivate Chymistry would receive from having constantly before their eyes a state of the best ascertained relations between the chief agents in Chymistry, was the first who undertook to reduce them in order and unite them all in one point of view, by means of a Table.

You have it here just as it was drawn up by Mr. Geoffroy, without any addition or alteration.

The upper line of this Table comprehends several substances used in Chymistry. Under each of those substances are ranged in distinct columns several matters compared with them, in the order of their relation to that first substance; so as that which is the nearest to it, is that which hath the greatest affinity with it, or that which none of the substances standing below it, can separate therefrom: but which, on the contrary, separates them all when they are combined with it, & expels them ~~all others~~ in order to join itself therewith. The same is to be understood of that which occupies the second place of affinity; that is, it has the same

property with regard to all below it, yielding only to that which is above it: & so of all the rest.

At the top of the first column stands the character which denotes an acid in general. Immediately under this stands the mark of a fixed Alkali, being placed there as the substance which has the greatest affinity with an Acid. After the Fixed Alkali appears the Volatile Alkali, whose affinity with an Acid, yields only to the Fixed Alkali. Next comes the Absorbent Earth, & last of all Metallic Substances. Hence it follows that when a fixed Alkali is united with an Acid, it cannot be separated therefrom by any other substance that a

Volatile Alkali united with an Acid cannot be separated from it by any thing but a fixed Alkali, that an Absorbent Earth combin'd with an Acid, may be separated from it either by a Fixed or by a Volatile Alkali; and lastly, that any Metallic Substance combin'd with an Acid, may be separated from it by a Fixed Alkali, a Volatile Alkali, or an Absorbent Earth.

At the head of the second column stands the character of the Marine Acid, which signifies that the affinities of this Acid are the subject of the column. Immediately below it is placed the mark of Tin. Tin, then, is of all Metalline substances that which has the

the greatest affinity with the Marine Acid; & then follow Regulus of Antimony, Copper, Silver, Mercury & Gold last of all; & there are no less than two vacant places above it. By this means it is in some sort excluded from the rank of substances that have an affinity with the Marine Acid. The reason thereof is that this Acid alone is not capable of dissolving Gold & combining therewith.

The third column exhibits the affinities of the Nitrous Acid, the character whereof stands at its head. Immediately below it is the sign of Iron, as the metal which has the greatest affinity with this Acid; & then follow other metals, each

according to the degree of its rela:
:tion; to wit, Copper, Lead, Mercury,
& Silver.

The fourth column is intended
to represent the affinities of the
Vitriolic Acid.

The fifth column shews the af:
:finities of Absorbent Earths. As these
Earths have no sensible affinity but
with Acids, this column contains on:
:ly the characters of the Acids ran:
:ked according to the degree of
their strength, or affinity with the
Earths; to wit, the Vitriolic, the Ni:
:trous, & the Marine Acids. Under:
:neath this last might be placed
the Acid of Vinegar, or the Vege:
:table Acid.

The sixth column expresses the affinities of Fixed Alkalies with Acids, which are the same with those of Absorbent Earths. Moreover we find Sulphur placed here below all the Acids; because Liver of Sulphur, which is a combination of Sulphur with a fixed Alkali; is actually decompounded by any Acid: for any Acid precipitates the Sulphur & unite with the Alkali.

The seventh column points out the affinities of Volatile Alkalis, which are likewise the same as those of Absorbent Earths; and the Vegetable Acid might be placed here also under the Marine Acid.

The eighth column specifies the affinities of Metallic substances with Acids. The affinities of the Acids, which in respect to Fixed Alkalis, Volatile Alkalis, & Absorbent Earths, succeeded each other uniformly, do not appear in the same order here. The Marine Acid, instead of being placed below the Vitriolic and Nitrous Acids, stands, on the contrary, at their head; because, in fact, this Acid separates Metallic substances from all the other Acids with which they happen to be united & forcing these Acids to quit possession intrudes into their place. Nevertheless, this is not a general rule; for several Metallic substances must be excepted, Iron & Copper in particular

The ninth column declares the affi:
:nities of Sulphur, Fixed Alkali, Iron,
Copper, Lead, Silver, Regulus of Anti:
:mony, Mercury, and Gold, stands be
:low it in the order of their affinities.
With regard to Gold it must be ob:
:served, that it will not unite with
pure Sulphur; it suffers itself to be
dissolved only by Lives of Sulphur,
which is known to be a composition
of Sulphur and Fixed Alkali. —

At the head of the tenth colum
appears Mercury, and beneath it
several Metalline substances, in
the order of their affinities with it.
Those Metalline substances are Gold,
Silver, Lead, Copper, Tine, & Regu:
lus of Antimony.

The eleventh column shews that Lead has a greater affinity with Silver than with Copper.

The twelfth, that Copper has a greater affinity with Mercury than with Calamine.

The thirteenth, that Silver has a greater affinity with Lead than with Copper.

The fourteenth contains the affinities. Iron. Regulus of Antimony stands immediately underneath it, as being the Metallic substance which has the greatest affinity with it.

The same is to be said of the fifteenth column: Regulus of Antimony stands at its head; Iron is immediately below it. &c

Lastly, the sixteenth column indicates that Water has a greater affinity with Sp.t of Wine than with Salts. By this general expression must not be understood any Saline substance whatever; but only the Neutral Salts, which Sp.t of Wine frees from the Water that kept them in Solution.

To these might be added another short column, having Sp.t of Wine at its head; immediately below should be the character of Water, & below that the mark of Oil. This column would shew that Sp.t of Wine has a greater affinity w.th Water than with Oils; because an oily matter whatever, y.t is dissolved in Sp.t of Wine, may be actually separated from it by the affusion of Water.

Geoffroy's Table of the observed between

I.	II.	III.	IV.	V.	VI.	VII.	VIII.
							MS
MS							

Explanation of

- Acid
- Aerial Spt.
- Marine Acid
- Nitrous Acid
- Vitriolic Acid
- Fixed Alkali
- Volatile Alkali
- Absorbent Earth
- MS. Metallic Substances
- Mercury
- Regulus of Antimony
- Gold or Sol.
- Silver or Luna

Comparative Affinities of sundry Substances.

IX.	X.	XI.	XII.	XIII.	XIV.	XV.	XVI.
♃	☿	♄	♀	☽	♂	☋	▽
☊	☉	☽	♀	♄	☋	♂	V
♂	☽	♀	LC	♀	☽ ♄ ♀	☽ ♄ ♀	θ
♀	♄						
♄	♀						
☽	Zℓ						
☋	☋						
☿							
☉							

the Characters.

♀ Copper or Venus.
♂ Iron or Mars.
♄ Lead or Saturn.
♃ Tin or Jupiter.
Zℓ Zinc
LC Calamine

♃ Sulphur
♃ Phlogiston
♃ Sp. of Vinegar
▽ Water
θ Neutral Salts
V Ardent Spirits

Park

Doctor Morgan's Table
of Affinities differs
from Geoffroy's consi-
derably

Of Metals.

There are six Metals, of which two are perfect & four Imperfect. The perfect Metals are Gold & Silver; the others are Copper, Tin, Lead, and Iron. Some Chymists admit a seventh Metal, to wit, Quick Silver: but as it is not malleable, it has been generally considered as a metallic body of a particular kind.

The ancient Chymists, or rather the Alchymists, who fancied a certain relation or analogy between Metals & the Heavenly Bodies, bestowed on the seven Metals, reckoning Quick Silver one of them, the names of the seven Planets of the Ancients, according to the affinity which they imagined they observed between those several bodies.

Thus

Thus Gold was called Sol, Silver Luna, Copper Venus, Tin Jupiter, Lead Saturn, Iron Mars, & Quick-Silver Mercury.

Metals are the heaviest bodies known in Nature.

§. 1. Of Gold.

Gold is the heaviest of all Metals. The arts of wire drawing and gold-beating shew its wonderful ductility. The greatest violence of fire is not able to produce any alteration in it. Tho' it be the most malleable & most ductile of all metals, it has the singular property of loosing its ductility more easily than any of them: even the fumes of charcoal are sufficient to deprive it thereof, if they come in contact with it while it is in fusion.

The malleability of this metal, & in-
deed of all the rest is also considera-
bly diminished by exposing it sudden-
ly to cold when it is red hot; for
example, by quenching it in water,
or even barely exposing it to the cold
air.

Of its Ores

Gold being constantly found in its
metalline form, & never combin'd w.th
sulphur & arsnic, its ores are not,
properly speaking, ores; because
the metal contained in them is not
mineralized. The gold ~~thus found~~
is only lodged between particles of
stone, earth or sand, from which it
is easily separated by lotion, and
by amalgamation with quicksilver.
Gold thus found is alloyed w.th silver

§. 2. Of Silver

Next to Gold, Silver is the most perfect metal. Like Gold it resists the utmost violence of fire, even in the focus of a burning-glass. However it holds only the second place among metals; because it is lighter than Gold by almost half; is also somewhat less ductile; & lastly, because it is acted upon by a greater number of solvents.

Yet Silver hath one advantage over Gold, namely that of being a little harder; which makes it also more sonorous.

This metal, like Gold, begins to flow when it is so thoroughly penetrated by the fire as to appear ignited like a live coal.

The nitrous acid is the true solvent of Silver, & being somewhat dephlegmated will very easily & readily take up a quantity of Silver equal in weight to itself.

Silver unites w.th Sulphur in fusion.

Silver unites & mixes perfectly with Gold in fusion. The two metals thus mixed form a compound with properties partaking of both.

When Silver is dissolved in aqua fortis it may be separated therefrom by absorbent Earths & fixed alkalis.

Of its Ores.

It is no rare thing to find Silver, as well as gold, in its metalline form, only lodged in sundry earthy & stony matters, from which it

may be separated in the same manner as gold. But the greatest quantities of this metal are usually dug out of the bowels of the earth in a truly mineral state, that is, combined with different substances, & particularly with Sulphur and arsenic.

§. 3. Of Copper.

Of all the imperfect metals Copper comes the nearest to Gold & Silver. Its natural colour is a deepened yellow. It resists a very violent degree of fire for a considerable time; but loosing its phlogiston at last, it changes its metalline form for that of a calx, or a pure reddish earth.

This metal is inferior to Silver in

point of gravity: nor is its ductili-
-ty so great, tho it be pretty con-
-siderable: but on the other hand,
it exceeds that metal in hardness.
The rust of Copper is always green
or blue, or of a colour between these
two. Internally used it is very nox-
-ious, being real poison, as are all the
solutions of this metal, made by
any acid whatever. The blue co-
-lour, which Copper constantly
assumes when corroded by any
saline substance, is a sure sign
by which it may be discovered,
wherever it exists, even in a very
small quantity.

Of all the metals, next to Gold
& Silver, Copper bears fusion the
longest without losing its phlogiston.

Of its Oar

Copper is much seldomer found in a metalline form, than gold or silver: it is commonly in a mineral state: it is mineralized by sulphur & arsenic: almost all its ores contain also more or less iron; sometimes a little silver & even gold, together with unmetallic earths & stones, as all ores do. Most copper ores are of a beautiful green or blue or else in shades blended of these two colours.

§. 4. Of Iron.

Iron is lighter & less ductile than Copper; but it is much harder, and of more difficult fusion.

It is the only body that has the property of being attracted by the magnet, which therefore

serves to discover it wherever it is.
But it must be observed that it hath this property only when in its metalline state, & looses it when converted to an earth or calx.
Bar Iron is still harder to fuse than Pig Iron: to make it flow requires the most force of fire.

Iron exposed to the fire, together with nitre makes it detonate prettily briskly, stir it in a flame, & decomposes it with rapidity.

Of its Ores.

Iron is seldom found pure & malleable in the earth; yet it is much seldomer found in the mineral state, properly so called, than any of the other Metals: for most Iron ores are scarce any

thing more than a ferruginous earth mixed in different proportions with unmetallic earths and stones.

Iron is the commonest of all metals; nay, it is so universally diffused through the earth, that it is difficult to find any stone, earth, or sand, that does not contain some of it; & therefore none of these are usually considered and treated as iron ores, except such as contain a great deal of that metal, & melt easily.

§. 5. Of Tin.

Tin is the lightest of all metals. Though it yields easily to the impression of hard bodies, it has but little ductility. Being bent back-

:wards & forwards it makes a small cracking noise. It flows with a very moderate degree of fire, & long before it comes to be red-hot. If the calx of Tin be urged by a strong fire it grows white, but the greatest violence of heat will not fuse it; wch. makes some Chymists consider it as a calcinable earth or an absorbent one, rather than a vitrifiable one. The calx of Tin thus vitrified is called Enamel. Enamels are made of several colours by the addition of this or that metalline calx.

Tin unites easily with all the metals; but it destroys the ductility & malleability of every one of them, Lead excepted. Nay, it possesses this property of making metals

brittle in such an eminent degree, that the very vapour of it, when in fusion, is capable of producing this effect. Moreover, which is very singular, the most ductile metals, even Gold & Silver, are those on wch it works this change with the most ease & in the greatest degree.

Tin hath the property of giving a great lustre to all red colours in general; on which account it is used by the dyers for striking a beatiful Scarlet. Water does not act upon this metal, as it does upon Iron and Copper; for which reason it is not subject to rust: nevertheless when it is exposed to the air its surface soon loses its polish & splendour.

Of its Ores.

Tin is never found in the earth pure and malleable, but always in a mineral state, & always mineralized by arsenic. Tin ores are not sulphureous; whence it comes that though tin be the lightest of all metals, its ores are nevertheless heavier than those of other metals, as arsenic greatly exceeds sulphur in gravity. Some tin ores contain also a little Iron. The ores of tin are to be washed, roasted, & smelted with a reducing flux, according to the general rules.

S. 6. Of Lead.

Next to Gold & Mercury Lead is the heaviest of all metalline sub-

:stances, but in hardness is exceed:
:ed by every one of them. Of all me:
:tals it melts the easiest, except Tin.
If Lead be boiled for a long time
in a lixivium of fixed alkali, a
part of it will be dissolved.
Sulphur renders this metal
refractory & scarce fusible; & the
mass they form when united toge:
:ther is friable.

Of its Ores

Lead, like tin, is never found
but in a mineral state. It is most
commonly mineralized by sulphur;
yet there are some lead ores
which also contain arsenic.
Lead ores, as well as all others,
must be roasted and smelted with
a reducing flux.

Of Quick Silver.

The reason why Quick-silver, by the Chymists commonly called Mercury, is not reputed a metal is, that it wants one of the essential properties thereof, to wit, malleability. When it is pure and unadulterated with any mixture, it is always fluid, & of course unmalliable. But as on the other hand, it eminently possesses the opacity, the splendour, & above all the gravity of a metal, being next to Gold the heaviest of all bodies, it may be considered as a true metal. differing from the rest no otherwise, than by being constantly in fusion.

If Mercury be exposed to the great-
-est heat that it can bear without
sublimation, & continued in it for
several months, or even a whole
year together, it turns to a red
powder, which the Chymists call
Mercurius praecipitus per se.
Mercury has the property of
dissolving all the metals & Iron
excepted. But the nitrous acid
dissolves Mercury with ease.

Of its Ores.

Running Mercury is some-
-times found in the earth, or grey,
friable stones; but most common-
-ly in a mineral state. It is al-
-ways mineralized by Sulphur
alone so that cinebar is the only

ore of Quick-silver, that we know of: and a very rich one it is, seeing it contains six or seven times as much mercury as Sulphur.—

Roasting can be of no use towards decomposing the ore of mercury being itself very volatile, would be carried off by the fire together with the Sulphur.—

~~Of Notes from [illegible]~~

Examination Public

Q. What's Anatomy &c

- wt. a Skeleton, how divided &c
- wt. is contain'd in the Skull.
- where does the Nerves Arise
- ~~wh~~how many Bones in the Head.
- wt. Bones constitute the trunk -
- wt. the shape of ye Spine -
- wt. ye shape of ye Vertibre
- Wt. is contain'd in the Thorax.
- how are the Lungs covered.

Wt. sort of a Membran is ye Pleura & how many

how is the Heart covered

Wt. the Use of the Lungs - &c

Does all the Blood in the Body goe thro the Lungs -

Wt. is the Name of those Vessels that go thro the Lungs

- Wt the Use of y^e Lacteals & Nerv
- Wt divides the 2 Cavities y^e Body
- Wt y^e Shape of the Diaphragm
  & its substance how is its
  shape changed
- Wt communicat^n is there bet
  the Thorax & Abdomen
- how many perforations thro y^e
  Diaphragm 3 — Pat
- how is the Abdomen divided
- why three distinctions
- why not in the Thorax
- Where is the Liver situated
- Where y^e Splen & Stomach
  Kidneys
- What the use of the Liver.
- Wt is the Bile secreted from
- Wt is the Vena Porta
- Wt is the Port. made of
- Wt is the use of the Venal
  Blood being taken to y^e Liver
  How is the Bile secreted
  Wt is y^e secretory Vessels

- Wt do the Arteries terminate in in the Liver
- Wt dos the Pori Bil. Terminate in
- does the Bile Regurgitate.
- how is the Bile propeld into the Duodenum — Hall
- Wt is the Shape of y^e Stomach.
- How does the Aliment Pass an Accot of Valves there
- how many Coates has it.
- Is the muscular Coat of the Stomach strong enough to perform Digestion —
- how is it performed —
- where is the Aliment pro: pelled to, from y^e Stomach & how, wt y^e Pylorus.
- Wt is the difference betwixt the Duodenum & the rest —
- Why is the Gutt tyd down —
- Where does the Pancreatic Juice come from

Wt. y. Use of the Bile —
Where are the Lacteals situated
By wt. power do the fine
Lacteals take up their fluid.
— Where do they carry it to —
— What the Thoracic Duct.
— Wt. it use — where does it
carry its fluid
— does the action of the Tho:
racic Duct depend on the Heart
— how is its fluid propelled
— What the Bile mixed with
— how is the Blood carry'd to the
different p.ts of the Body.
— Wt. is an Artery — &c —
— Is there any peristaltic motion
in the Arteries. yes
Wt. do arteries terminate in
Wt. the Use of Veins
Wt. the difference between
Arteries & Veins
have all Veins Valves —

Why in the Veins of y^e Epiploon
are there as many Veins as
Arteries
W^t are Lymphatics
how do you prove them Absorb^t
W^t is the Urine
Where Secreted - Kidneys
How is it carry'd from y^e Kidneys
Where do they carry it to. can
the Urine regurgitate
W^t the Contents of y^e Pelvis
Nothing between Bladder &
Rectum
how many y^e of Muscles on
the Abdomen
how are the Viscera covered
W^t is the Peritoneum
Is it moist or dry
W^t is y^e particular use of y^e great
Gutt^s
Where ariseth the Gravel
by M^r Potter
Is y^e Stones ever generated in any
other p^t of the Body than y^e Bladd^r

Where does the Artery End & the
Vein begin — how is it known —

Mrs Morgan —

What is Chemistry — Armstrong
How are they Distinguished
What Analytic & Synthetic —
What are Bodies
how many kinds of Element.
What is an Atom
What Chemical Principles —
What are Mixt
What a Compound w.t y.e diff.t
What a Decomp.n & Super Decomp.n
What are Simple Bodies
Symbols — how are
Aggregate Divided —
How Constit.t & integrant p.ts
Differ —
What is Attn & how Divided
how is the Acid Neutralized
& how promoted —

how is the Alkali obtain'd
— by adding inflammably —
Wt is the Vit Acid, is it Native.
Wt is it combined With —
Wt is the composition of Sulphur
Is it ever found united with
Earthy Substances:
Wt is the Effect when apply'd
to any othe Acid — & Alkali.
& Water — L
how do you dissolve Iron in
the Vitriolic Acid — diluted
Wt is the Phenomenon here.
Wt is Phlogiston —
Wt is the specific gravity of Vt Acid
Wt is the Names is it distin:
:guished in the Books of Chem'y.
Are they all diff.t Acids.
how does not the Acid of Sulphur
differ from the Acid of Vitriol.
From Wt Substances is the Acid
of Vitriol chiefly obtained —
Sulphur —

How many Classes of Bodies
are in Chemistry —
Wt. is a Saline Body —
How many kinds of Salts are
there — how many simple
Why called simple —
How many kinds of Acid — 4
Why are they called by the
Names — from the Substances that are
How many kinds of comp. Salts
Wt are the Mark of an Acid —
Wt that of an Alkali —
Is there any other Mark of
an Alkali than that of
turning Syr. of Viol. green
Wt the effects of uniting
an Acid & Alkali together
— can they be united unequally

Physiology

Howmany kinds of Comp.d Salts
Wt are Neutral Salts
Whw is there an Instance of this
Wt are Earthy Salts
Wt are purging Salts - Earthy
Wt is the Effect of an Acid united
with an Earth - wt Effervescence
Wt the eff.t of adding an Alcali
to an Earthy Salt.
Howmany kinds of Alkali
Wt is a fixed Alkali
Wt a Volatile Alkali
Do these differ from one Another
Do the Vol. Alkali when united
with Alkali form the same
kind of Salt as the fixt
Howmany kind of Ammon.
Howmany neut.l Salts
Wt Vol. Spirit

Wt Glauber Salt
Wt V

Wt y difference of Cubic & Comm. Nitre
how is Nitre obtained
how many kinds of salt does the Muriatic Acid afford
Wt is Digestive Salt
Wt common Salt
Wt S. Mindereri
Wt Salt is Glauber Salts obtained from
Wt is Inflam. Substance
Wt y distinction between an Inflam. & Ignible Body
How many kinds of Inflam. & Bodies are they
How many kinds of Oil, & kinds are they

Why called by these Names
How many kinds of Vegetable Oils.
What is Expressed, Essential & Empy.
In wt. Quality does an Expressed
Oil differ from Essential Oils—
Wt. ye Quality of Empyreumatick
Oils—

How many kinds of Earths Bodies
Wt. an Absorbent Earth
Wt a Chrystalline D°.
Wt. is an Argillaceous Body.
Wt. kind of Earth is a Calcarious
Grit an Example of Lime
Wt. is the particular Qual.s
Wt is fixd Air_ is there any
surrounding us any Atmosphere
Wt the Use of Use of Chrystalline
Earth. ~~Earth~~ Glass.
Is the Action of ye Sun alone Suffi-
cient to convert it into Glass
or Quick Lime

W.^t the Changes in the Qualities of Bodies depend upon
W.^t is necessary
W.^t is Attraction — Electiveth give an Instance
How is Elective Attraction — in Single & Double
W.^t is Single & Double E. Attrac
How many k.^ds of Distillation —

thus far by Morgan
here Foster Questions Ansrd; — concerning Acids & Alkalis & the first Motion of Bodies;
here Kuhn begun
Astringents
W.^t is y.^e Definition of M.^a M.
How is Astring.^ts known
Whether does it act on the Simple or moving Solids
How is Astringents divided —
When is Vegetable Astring.^ts Preferred as well as Fossils & Mineral —

How do Calcareous Astring.ts act
Body
What Calcareous Substances are used
as Astring.ts
Will any of these Substances act
in their Native State as Astring.ts
How are Chalybeate Waters known
Is water ever impregnated with
Copper — how known
Is there any difference in the
effects of Copper & Irons
Is Lead a safe Medicine — no
Purpose
What part of the Body does
Emollients act on —
Which are the principle ones
& they differ in their effects
Is cold Water an Emollient
What is the Advantage of using
warm Water —
How is Cheap

Wt. parts do Stimulants act
When Indicated
Skinner
Wt. the Effects of Stimulants—
Is there any Disadvantage in
a long Use of Stimulants,
Wt. is P. Bark. is it indicated
in every Fever — no —
What Fever is it orderd in
Which is the best Method of
giving the Bark — in powder
Wude
What are Sedatives —
On wt. pts. do they act —
Wt. are ye. principal. what are
the effects of Opium —
Is Opium useful in all pains no.
Is it usefull in all spasmodic compt.
Is it of service in Hæmorhagies. in form yes
Pratt —
Wt. are the effects of C: Bath. &c.
In ye. Diseases cases is it proper
Wt. the effects of it — &c. —

Why is the Cold felt so sensibly
as well as the heat —
Is the Cold B: usefull in Consump-
:tions & other weaknesses — no —
How is the Epilepsy cured
Is is gove Hysteric yes — in Hypocon.

Winden

Wt. are Emetics — wt. their Effects.
Is there any difference in Emet.
Wt. is a Sialagoge —
Which is the principle one — ☿
will ☿ have any effect on the
Body in ye crude State — ☿
— What the best form for Exhibition
Is a Salivat. allways necessary
for curing the Lues Venerea —
Will ☿ have its proper effect
without Salivation —
Then which is the best method —
of giving —
What ye advantage of giving
the milder preparations of ☿

Hall

W.t are y.e Effect of Blisters
– are they Stimulat.g
– why used in Topical Inflam.n?
W.t are effects of Cantharides
when taken internally

Purges w.t

which are the mildest
what are y.e Active purges
what is Nature of Aloes
how is y.e purgative virtues
of Rhubarb increased by Calom
Rhu for Rheum